To All
The Director
All Autonomous/ Constituent/Affiliated Colleges
Uttarakhand Technical University

Dear Sir/Madam

In reference to the letter No. D.O.No.F.1-2/2017(CPP-II) received from University Grants Commission regarding compulsory implementation of module syllabus on Environmental Studies (A copy of syllabus enclosed) for undergraduate course of all branches of higher education in universities and colleges as per directives of the Hon’ble Supreme Court of India.

In this regards it is to inform to all please implement the same as per the directions of the Hon’ble Supreme Court with immediate effect. A copy of the syllabus has already been uploaded on University website.

Regards

(Arun Kumar)
Asst. Registrar

CC to:-

(1) Secretary, University Grants Commission for information please.
(2) PS to VC for Kind information to Hon’ble VC sir.
UNIVERSITY GRANTS COMMISSION

Ability Enhancement Compulsory Course (AECC – Environment Studies)

Unit 1: Introduction to environmental studies

- Multidisciplinary nature of environmental studies;
- Scope and importance; Concept of sustainability and sustainable development.

Unit 2: Ecosystems

- What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems:
  a) Forest ecosystem
  b) Grassland ecosystem
  c) Desert ecosystem
  d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Unit 3: Natural Resources: Renewable and Non-renewable Resources

- Land resources and landuse change; Land degradation, soil erosion and desertification.
- Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.
- Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state).
- Energy resources: Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

Unit 4: Biodiversity and Conservation

- Levels of biological diversity: genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots.
- India as a mega-biodiversity nation; Endangered and endemic species of India.
- Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.
- Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.

Unit 5: Environmental Pollution

- Environmental pollution: types, causes, effects and controls; Air, water, soil and noise pollution.
- Nuclear hazards and human health risks.
- Solid waste management: Control measures of urban and industrial waste.
- Pollution case studies.

Unit 6: Environmental Policies & Practices

- Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture.
• Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context. (7 lectures)

Unit 7: Human Communities and the Environment
• Human population growth: Impacts on environment, human health and welfare.
• Resettlement and rehabilitation of project affected persons; case studies.
• Disaster management: floods, earthquake, cyclones and landslides.
• Environmental movements: Chipko, Silent valley, Bishnois of Rajasthan.
• Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.
• Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi). (6 lectures)

Unit 8: Field work
• Visit to an area to document environmental assets: river/ forest/ flora/fauna, etc.
• Visit to a local polluted site-Urban/Rural/Industrial/Agricultural.
• Study of common plants, insects, birds and basic principles of identification.
• Study of simple ecosystems-pond, river, Delhi Ridge, etc. (Equal to 5 lectures)

Suggested Readings: